



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/085,885

02/27/2002

Anthony J. Ticknor

373722002400(Client Ref.:

7760

7590

01/25/2005

Charles D. Holland  
Morrison & Foerster LLP  
755 Page Mill Road  
Palo Alto, CA 94304-1018

EXAMINER

WOOD, KEVIN S

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/085,885

Applicant(s)

TICKNOR ET AL.

Examiner

Kevin S Wood

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-66 is/are pending in the application.
- 4a) Of the above claim(s) 1, 5, 6, 9-30, 36-46, 49-51, 58-59 and 65 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4, 31-35, 47, 48, 51-57 and 60-64 is/are allowed.
- 6) ☒ Claim(s) 2 and 66 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/2/04.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. This action is responsive to the Response to Restriction Requirement filed on 15 November 2004.
2. Applicant's election with traverse of claims 2-4, 31-35, 47, 48, 51-57, 60-64 and 66 in the reply filed on 15 November 2004 is acknowledged. The traversal is on the ground(s) that searching the multiple inventions doesn't present an undue burden on the examiner. This is not found persuasive because the applicant is claiming multiple patentably distinct inventions, where each invention requires a different search. The applicant also argues that the examiner has not established that each invention has a separate utility. The examiner respectfully disagrees with this argument and has disclosed the separate utilities in the previous action.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 2874

4. Claims 2 and 66 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,470,106 to McClelland et al.

Referring to claim 2, McClelland et al. discloses all the limitations of the claimed invention. McClelland et al. discloses an optical device having a substrate (50) defining a first microchannel and having a first waveguide (21) composed of a core and a cladding, wherein a first portion of the microchannel is positioned in sufficient proximity to a first portion of the core of the waveguide that an amount of optical power from an optical signal traversing the waveguide extends into the microchannel, wherein the microchannel contains at least a first fluid (42) and a second fluid (41), and wherein the first fluid and the second fluid move under thermal expansion. See Fig. 1-3 of the reference along with their respective portions of the specification.

Referring to claim 66, McClelland et al. discloses all the limitations of the claimed method. McClelland et al. discloses a method of modifying an optical signal in a planar waveguide device comprising a first optical fluid (42) sufficiently near to a core (21) of a waveguide of the device such that at least a portion of the optical power from the optical signal passing through the waveguide extends into the first optical fluid and altering the optical signal by displacing at least a portion of the first optical fluid by a second optical fluid (42). See Fig. 1-3 of the reference along with their respective portions of the specification.

***Allowable Subject Matter***

5. Claims 4, 31-35, 47, 48, 51-57, and 60-64 are allowed.
6. Claims 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. The following is a statement of reasons for the indication of allowable subject matter:

Referring to claim 4, 31-35, 47, 48 and 51 the primary reason for the allowability of these claims is the inclusion of the first fluid and second fluid having physical properties such that the first fluid and the second fluid move the first optical material toward or away from the core when a voltage is applied to the electrodes.

Referring to claim 52-57 the primary reason for the allowability of these claims is the inclusion of the step of placing a lid over the open faced continuous microchannel and attaching the lid to the face of the substrate.

Referring to claim 60-64 the primary reason for the allowability of these claims is the inclusion of the step of providing electrodes in sufficient proximity to the second fluid interface that the interface is movable using a force selected from at least one force selected from the group consisting of differential-pressure electrocapillarity, electrophoresis, electroosmosis, dielectrophoresis, electrohydrodynamic pumping, magnetohydrodynamic pumping, dielectric pumping, and variable dielectric pumping.

Art Unit: 2874

**Conclusion**

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin S Wood whose telephone number is (571) 272-2364. The examiner can normally be reached on Monday-Thursday (7am - 5:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney B Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kevin S. Wood



AKM ENAYET ULLAH  
PRIMARY EXAMINER